

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 13445-026001	Application No. 10/720,453
		Applicant Vladimir Fuflyigin	
		Filing Date November 24, 2003	Group Art Unit 1762

Information Disclosure Statement
by Applicant
(Use several sheets if necessary)

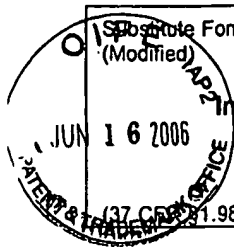
(37 CFR §1.98(b))

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
DT	AA	6,831,934	Dec. 14, 2004	Wang et al.			
	AB						
	AC						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AD							
	AE							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AF	
	AG	

Examiner Signature /David Turocy/	Date Considered 12/21/2006
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1762**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	H1734	10/1998	Tran et al.			
DPT	AB	3,850,604	11/1974	Klein			
	AC	3,938,974	02/1976	Macedo et al.			
	AD	4,212,663	07/1980	Aslami, Mohd A.			
	AE	4,324,803	04/1982	Bergmann, et al.			
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Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
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	ADD	6,115,526	09/2000	Morse			
	AEE	6,128,429	10/3/2000	Cole et al.			
	AFF	6,130,780	10/10/2000	Joannopoulos et al.			
	AGG	6,175,671	01/2001	Roberts			
	AHH	6,195,483	02/2001	Moon, et al.			
	AII	6,201,916	03/2001	Eggleton et al.			
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	AKK	6,301,421	10/2001	Wickham, et al.			
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	AMM	6,334,019	12/2001	Birks et al.			
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	APP	6,404,966	06/2002	Kawanishi et al.			
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	AUU	6,801,698	10/5/2004	King et al.			
	AVV	6,816,243	11/9/2004	Shurgalin et al.			
	AWW	6,879,386	4/12/2005	Shurgalin et al.			
	AXX	6,895,154	5/17/2005	Johnson et al.			
	AYY	6,898,359	5/24/2005	Soljacic et al.			
	AZZ	6,903,873	6/7/2005	Joannopoulos et al.			
	AAAA	2001/0026667	10/2001	Kawanishi, et al.			
DPT	ABBB	2002/0039046	04/2002	Lipson, et al.			

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DPT	ACCC	2003/0044158	03/2003	King et al.			
↓	ADDD	2003/0044159	3/6/2003	Anderson et al.			
↓	AEEE	2004/0013379	1/22/2004	Johnson et al.			
↓	AFFF	2004/0137168	7/15/2004	Fuflyigin			
↓	AGGG	2004/0141702	7/22/2004	Fuflyigin et al.			
↓	AHHH	2004/0223715	11/11/2004	Benoit et al.			
↓	AIII	2005/0226579	10/13/2005	Fink et al.			
↓	AJJJ	2005/0259933	11/24/2005	Temelkuran et al.			
↓	AKKK	2005/0259934	11/24/2005	Temelkuran et al.			
↓	ALLL	2005/0259942	11/24/2005	Temelkuran et al.			
↓	AMMM	2005/0259944	11/24/2005	Anderson et al.			
DPT	ANNN	2005/0271340	12/8/2005	Weisberg et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
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							Yes	No
DPT	AOOO	0955273	11/1999	EP				
↓	APPP	WO 200284345	10/2002	WIPO				
↓	AQQQ	WO 200261467	08/2002	WIPO				
↓	ARRR	2,288,469	10/1995	Great Britain				
↓	ASSS	0 195 630	09/1986	Europe				
↓	ATTT	0 426 203	05/1991	Europe				
↓	AUUU	2000-035521	02/2000	Japan				
↓	AVVV	2001-051244	02/2001	Japan				
↓	AWWW	WO 94/09393	04/1994	WIPO				
↓	AXXX	WO 94/16345	07/1994	WIPO				
↓	AYYY	WO 97/01774	01/1997	WIPO				
DPT	AZZZ	WO 00/22466	04/2000	WIPO				

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							Yes	No
DPT	AAAAA	WO 00/46287	08/2000	WIPO				

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
DPT	ABBBB	A. Asseh, et al., "10cm Yb ³⁺ DFB fibre laser with permanent phase shifted grating", Electron. Lett., 31 (12): 969 (1995).
	ACCCC	A. S. Oliveira et al., "Frequency upconversion in Er ³⁺ /Yb ³⁺ -codoped chalcogenide glass," Appl. Phys. Lett, 72 (7): 753-755 (1998).
	ADDDD	A. T. Clausen et al., "10-GHz return-to-zero pulse source tunable in wavelength with the single- or multiwavelength output based on four-wave mixing in a newly developed highly nonlinear fiber," IEEE Photon. Technol. Lett., 13 (1): 70-72 (2001).
	AEEEE	Andrea Melloni et al., "All-optical switching in phase-shifted fiber Bragg grating," IEEE Photonics Technology Letters, 12 (1): 42-44, January 2000.
	AFFFF	B. E. Little et al., "Microring resonator arrays for VLSI photonics", IEEE Photon. Technol. Lett., 12 (3): 323-325 (2000).
	AGGGG	Berger V. "From photonic band gaps to refractive index engineering." Optical Materials, 11:2-3, Jan. 1999, pp. 131-142.
	AHHHH	B. J. Eggleton et al., "All-optical switching in long-period fiber gratings," Optics Letters, 22 (12): 883-885, June 15, 1997.
	AIIII	B. J. Eggleton et al., "Grating resonance in air-silica microstructured optical fibers", Opt. Lett., 24 (21): 1460 (1999).
	AJJJJ	B. Malo, et al., "Photosensitivity in phosphorous-doped silica glass and optical waveguides," Appl. Phys. Lett 65 (4): 394 (1994).
	AKKKK	Chang et al. "Vector Normal Modes on Two-Core Optical Fibers – Part I: The Normalmode solutions." Journal of Lightwave Technology, 15:7, Jul. 1997, pp. 1213-1223.
	ALLLL	D. Furniss et al., "A novel approach for drawing optical fibers from disparate core/clad. glasses," J Non-Cryst. Sol. 213-214: 141-146 (1997).
	AMMMM	E. Anderson et al., "Dielectric Materials for Manufacturing Photonic Bandgap Waveguide," US Patent Disclosure, (2001).
	ANNNN	E. Brinkmeyer, et al., "Fibre Bragg reflector for mode selection and line-narrowing of injection lasers", Electron. Lett., 22 (3): 134 (1986).
	AOOOO	Feigel A. et al. "Chalcogenide glass-based three-dimensional photonic crystals." Applied Physics Letters, 77:20, pp. 3221-3223, November 13, 2000.
	APPPP	Fink et al. "Guiding optical Light in Air Using an All-Dielectric Structure," Journal of Lightwave Technology, Vol. 17, no. 11, November 1999
	AQQQQ	G. Meltz, et al., "Formation of Bragg gratings in optical fibers by a transverse holographic method", Opt.Lett., 14 (15): 823 (1989).
✓	ARRRR	G. S. He et al., "Efficient amplification of a broad-band optical signal through stimulated Kerr scattering in a CS ₂ liquid-core fiber system," IEEE J. Quantum Electron., 28 (1): 323-329 (1992).
DPT	ASSSS	H.A. Haus, et al., "Antisymmetric taper of distributed feedback lasers", IEEE J. Quantum Electron., QE-12 (9): 532 (1976).

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Other Documents (include Author, Title, Date, and Place of Publication)		
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DPT	ATTTT	I. Gannot, et al., "Current Status of Flexible Waveguides for IR Laser Radiation Transmission", IEEE J. Sel. Topics in Quantum Electr., IEEE Service Center, 2 (4): 880-888 (Dec 1996).
	AUUUU	J. Fick et al., "High photoluminescence in erbium-doped chalcogenide thin films," J. Non-crystalline Solids, 272 (2-3): 200-208 (2000).
	AVVVV	J. Kobelke et al., "Chalcogenide glass single mode fibers--preparation and properties," J. Non-Crystalline Solids, 256-7: 226-231 (1999).
	AWWWW	J. M. Harbold et al., "Highly nonlinear As-S-Se glasses for all-optical switching," Optics Lett., 27 (2): 119-121 (2002).
	AXXXX	J. Marchionda et al., "Advanced rod in tube techniques for fluoride fiber fabrication," Ceramics Transactions, Solid-State Optical Materials, eds. Allan J. Bruce and B.V. Hiremath, 28: 587-596 (1992).
	AYYYY	Johnson et al., "Low-loss asymptotically single-mode propagation in large-core OmniGuide fibers," OPTICS EXPRESS, Vol. 9, No. 13, pages 748-779, December 17, 2001.
	AZZZZ	J. S. Foresi et al., "Photonic-bandgap microcavities in optical waveguides," Nature, 390: 143-145 (November 13, 1997).
	AAAAAA	Jia Jiang et al., "Fluorophosphate cladding glasses for fluoride glass fibers," J Non-Cryst. Sol., 213 and 214: 11-15 (1997).
	ABBBB	J-X Cai, et al., "Simultaneous tunable dispersion compensation of many WDM channels using a sampled nonlinearly chirped fiber Bragg grating", IEEE Photon. Tech. Lett., 11 (11): 1455 (1999).
	ACCCCC	K. O. Hill, et al., "Photosensitivity in optical fiber waveguides: Application to reflection filter fabrication", Appl. Phys. Lett., 32 (10): 647 (1978).
	ADDDDD	K. O. Hill, et al., "Efficient mode conversion in telecommunication fibre using externally written gratings", Electron. Lett., 26 (16): 1270 (1990).
	AEEEE	L. F. Stokes, et al., "All-single-mode fiber resonator", Opt. Lett., 7 (6): 288 (1982).
	AFFFF	Louis Poirier et al., "Nonlinear coaxial photonic crystal," Applied Physics Letters, 78 (18): 2626-2628, April 30, 2001.
	AGGGGG	Massadegh R. et al. "Fabrication of single-mode chalcogenide optical fiber." Journal of Lightwave Technology, 16:2, pp. 214-216, February 1998.
	AHHHH	M. Ibanescu et al., "An all dielectric coaxial waveguide," Science, 289: 415-419 (2000).
	AIIII	M. Miyagi, et al., "Fabrication of germanium-coated nickel hollow waveguides for infrared transmission", Appl. Phys. Lett., 43 (5): 430 (1983).
	AJJJJ	Monro, T.M. et al. "Chalcogenide Holey Fibres." Electronics Letters, 36:24, pp. 1998-2000, November 23, 2000.
	AKKKK	M. Skorobogatiy et al., Optics Express, 10, p. 1227 (2002)
	ALLLL	M.W. Moore et al., "Sputtering of Chalcogenide Coatings on to Fluoride Glass," Novel Glasses and Processes, pp 193-197.
	AMMMM	N. Croitoru, et al., "Characterization of hollow fibers for the transmission of infrared radiation", Appl. Opt., 29 (12): 1805 (1990).
	ANNNN	Nishii, J. et al. "Chalcogenide glass fiber with a core-cladding structure." Applied Optics, 28: 23, pp. 5122-5127, December 1, 1989.
DPT	AOOOO	Piere R. Villeneuve et al., "Single-mode waveguide microcavity for fast optical switching," Opt. Lett., 21 (24): 2017-2019, December 15, 1996.
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DPT	APPPPP	P. Yeh et al., <i>J. Opt. Soc. Am.</i> , 68, p. 1196 (1978)
	AQQQQQ	R. E. Smith et al., "Reduced coupling loss using a tapered-rib adiabatic-following fiber coupler," <i>IEEE Photon. Technol. Lett.</i> , 8 (8): 1052-1054 (1996).
	ARRRRR	R.F. Cregan et al., <i>Science</i> 285, p. 1537-1539, (1999)
	ASSSSS	R. Nubling and J. Harrington "Hollow-waveguide delivery systems for high-power, industrial CO ₂ lasers," <i>Applied Optics</i> , 34, No. 3, pp. 372-380 (1996)
	ATTTTT	R. U. Ahmad et al., "Ultracompact corner-mirror and T-branches in silicon-on-insulator," <i>IEEE Photon. Technol. Lett.</i> , 14 (1): 65-76 (January 2002).
	AUUUUU	Sanghera, J.S. et al. "Development and infrared applications of chalcogenide class optical fibers." <i>Fiber and Integrated Optics</i> , 19:3, pp. 251-274, March 1, 2000.
	AVVVVV	Sanghera, J.S. et al. "Fabrication of long lengths of low-loss IR transmitting AS40S (60-X) sex glass fibers." <i>Journal of Lightwave Technology</i> , 14:5, pp. 743-748, May 1, 1996.
	AWWWWW	S. Coen et al., "White-light supercontinuum generation with 60-ps pump pulses in a photonic crystal fiber," <i>Opt. Lett.</i> , 26 (17): 1356-1358 (2001).
	AXXXXX	S. Ramachandran and S. G. Bishop, "Low loss photoinduced waveguides in rapid thermally annealed films of chalcogenide glasses," <i>Appl. Phys. Lett.</i> , 74 (1): 13-15 (1999).
	AYYYYY	Stojan Radic et al., "Theory of low-threshold optical switching in nonlinear phase-shifted periodic structures," <i>J. Opt. Soc. Am. B</i> , 12 (4): 671-680, April 1995.
	AZZZZZ	T. Cardinal et al., "Non-linear optical properties of chalcogenide glasses in the system As-S-Se," <i>J. Non-Crystalline Solids</i> , 256-7: 353-360 (1999).
	AAAAAA	T.A. Birks et al., "Dispersion Compensation Using Single-Material Fibers," <i>IEEE Photonics Technology Letters</i> , 11 (6): 674-676 (1999).
	ABBBBB	Y. Fink et al., "Block copolymers as photonic band gap materials," <i>J. Lightwave Tech.</i> , 17 (11): 1963-1969, (JLT IEEE-special issue on photonic crystals-invited paper) (1999).
	ACCCCC	Y. Matsuura, et al., "Hollow glass waveguides with three layered dielectric coating fabricated by chemical vapor deposition," <i>J. Opt. Soc. Amer.</i> , 14 (6): 1255 (1997).
	ADDDDD	Y. Matsuura, et al., "Optical properties of small-bore hollow glass waveguides", <i>J. Opt. Soc. Amer.</i> , 34 (30): 6842-6847 (1995)
	AEEEEEE	Y. Yamamoto et al., <i>Phys. Today</i> , 46: 66-73 (1993).
	AFFFFFF	Yoel Fink et al., "A dielectric omnidirectional reflector," <i>Science</i> , 282: 1679-1682 (1998).
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